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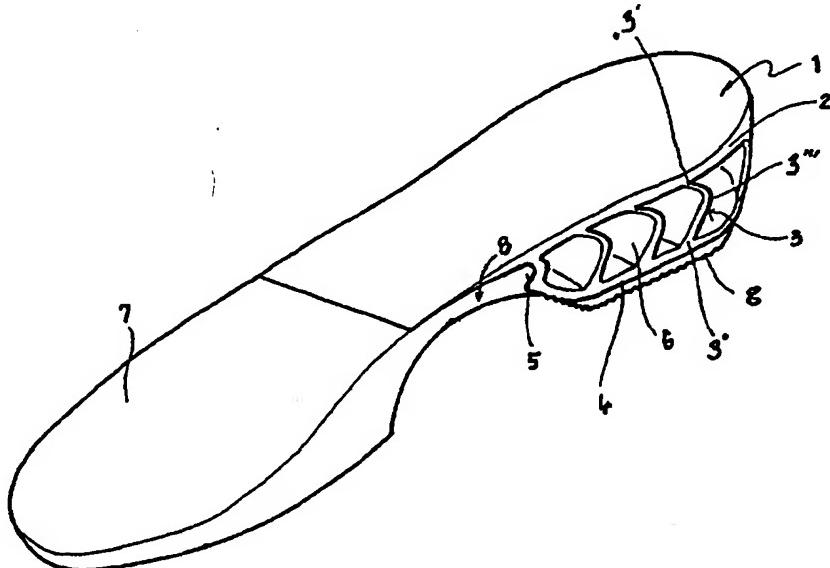
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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(54) Title: OUTSOLE OF FOOTWEAR



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(57) Abstract: The enclosed is an outsole of footwear which is capable of absorbing shocks applied to all kinds of footwear such as sports shoes and leather shoes and enhancing the propulsive force upon the forward walking or running of a user. The outsole of footwear installs a plurality of support plates (3) separated by a predetermined distance from each other, in a horizontal direction, between a surface plate (2) and a bottom surface plate (4) of a heel body (1) made of an elastic synthetic resin, thereby forming a plurality of air chambers (6), each of the support plates having a slightly curved waist part (3') in the center portion thereof, for dispersing gravity applied to the heel body (1) and collecting the dispersed gravity in a forward direction, and the front support plate being provided with a compression chamber (5), into which a part of outsole (7) is inserted, for absorbing shocks applied to the outsole.

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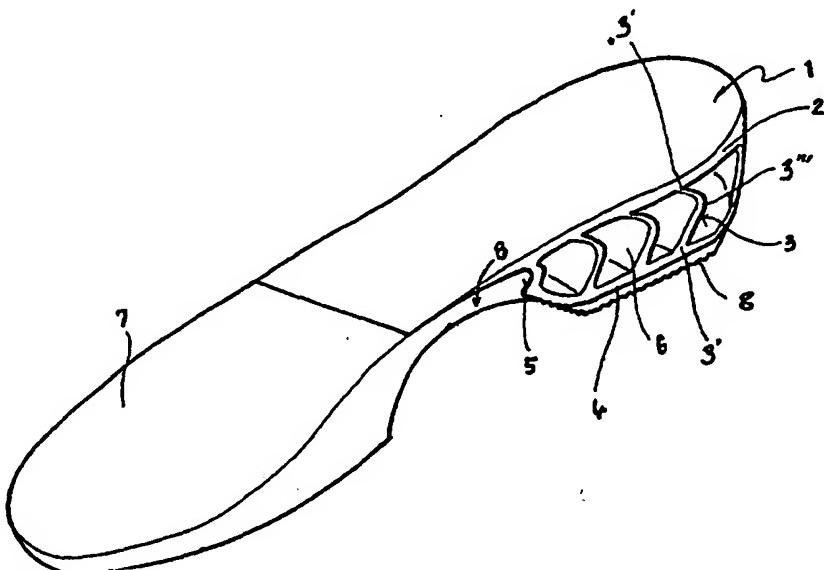
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## OUTSOLE OF FOOTWEAR

### Technical Field

The present invention relates to an outsole of footwear which is capable of absorbing shocks applied to all kinds of footwear such as sports shoes and leather shoes and enhancing the propulsive force upon the forward walking or running of a user.

### Background Art

10 Conventionally, various kinds of cushion outsoles of footwear have been introduced, but since most of them are structured by inserting a spring into the heel of the outsole or providing the elasticity to the outsole material itself, they suffer some problems that the propulsive force upon the walking may be reduced due to the heavy weight  
15 thereof, the production process may be somewhat complicated and the elasticity of the outsole may be easily weakened by the continuous wearing thereof.

### Disclosure of the Invention

20 Accordingly, an object of the present invention is to provide an outsole of footwear which is capable of installing a plurality of support plates separated by a predetermined distance from each other, in a horizontal direction, between a surface plate and a bottom surface plate of a heel body made of an elastic synthetic resin, thereby  
25 forming a plurality of air chambers, such that the weight of outsole is decreased and uniformly dispersed to thus improve a good landing feeling on the ground, and forming each support plate with a slightly curved waist part on the center portion thereof and the front support plate with a compression chamber, into which a part of outsole made  
30 of an elastic rubber is inserted, such that the compression force produced upon walking is absorbed and the elastic force produced upon the release of the compression force is utilized for increasing the walking force of the user.

35 Brief Description of the Drawings

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The invention will further be described by way of example and with reference to the following drawings, in which,

Fig. 1 is a perspective view illustrating an outsole of footwear according to the present invention;

5 Fig. 2 is a separated perspective view illustrating the main parts of the outsole of footwear according to the present invention;

Fig. 3 is a sectional view of Fig. 2; and

Fig. 4 is an exemplary view illustrating a preferred embodiment of the present invention.

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#### Best Mode for Carrying Out the Invention

An explanation of the construction and operation of the outsole of footwear according to the present invention will be in detail discussed with reference to the accompanying drawings.

15 As shown, a plurality of support plates 3 separated by a predetermined distance from each other, in a horizontal direction, are installed between a surface plate 2 and a bottom surface plate 4, on which a heel sole 9 is attached, of a heel body 1 made of an elastic synthetic resin. Each of the support plate 3 is connected to the  
20 surface plate 2 on the head part 3 thereof, connected to the bottom surface plate 4 on the root part 3 thereof, and has a slightly curved waist part 3 on the center portion thereof, thereby forming a plurality of air chambers 6. And, the front muscular plate 3 is provided with a compression chamber 5 in a curved form, into which a part of the  
25 outsole 7 made of a rubber or a durable synthetic resin is inserted, thereby functioning as a cushion part 8.

Under the above construction according to the present invention, the outsole of the present invention is attached to the uppers of the sports shoes or the leather shoes thereon, thereby completing a  
30 desired footwear production. Then, if a user who wears the footwear with the outsole according to the present invention walks or runs, the load applied to his footwear is applied on the heel body 1 disposed in the back part of the outsole of the footwear and is then dispersed by the plurality of support plates 3 separated by the predetermined  
35 distance from each other, thereby delivering the load to the heel sole

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9. As a consequence, the user may have a good landing feeling on the ground with the help of the dispersion of the load of the plurality of support plates 3 without any effort.

In addition, when the load is applied to the plurality of support plates 3, it is concentrated on the front part of the footwear by the waist part 3 of each support plate 3 and thus, the concentrated load is used to compress the compression chamber 5 of the front support plate 3. In this way, since the compression chamber 5 includes the cushion part 8 which is connected to the part of outsole made of a rubber having cushion or a material having durability and expansion, it can absorb and buffer the shocks by the feature of the material itself and at the same time utilizes an elastic force produced upon the release of the load as a propelling force pushing the sole of a users foot from the ground forwardly, thereby allowing the user to walk in an easy manner.

As clearly set forth in the foregoing, there is provided an outsole of footwear according to the present invention which is capable of installing a plurality of support plates 3 separated by a predetermined distance from each other between a surface plate 2 and a bottom surface plate 4 of a heel body 1, thereby forming a plurality of air chambers 6, such that the weight of the heel body 1 itself may be considerably reduced and forming a slightly curved waist part 3 in the forward direction on the center portion of each support plate 3 and a compression chamber 5 on the front support plate 3, whereby if the weight of a user is applied to the rear heel upon walking, the plurality of support plates 3 serve to disperse the applied load to thereby ensure a good landing feeling on the ground and at the same time deliver the compressed force to the compression chamber 5, such that the applied force to the compression chamber 5 is absorbed in the cushion part 8 and if the load of the user is released, the compressed elastic force pushes upwardly and is applied forwardly, thereby allowing the user to walk in an easy manner. Therefore, the outsole of footwear according to the present invention ensures a novel and advanced footwear.

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**Industrial Applicability**

Those skilled in the art will readily recognize that these and other modifications and changes may be made to the present invention without strictly following the exemplary application illustrated  
5 and described herein and without departing from the true spirit and scope of the present invention.

The invention being thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention,  
10 and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

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Claims:

1. An outsole of footwear, characterized in that a plurality of support plates (3) separated by a predetermined distance from each other, in a horizontal direction, between a surface plate (2) and a bottom surface plate (4) of a heel body (1) made of an elastic synthetic resin, thereby forming a plurality of air chambers (6), each of the support plates having a slightly curved waist part (3) on the center portion thereof, for dispersing gravity applied to the heel body (1) and collecting the dispersed gravity in a forward direction, and the front support plate being provided with a compression chamber (5), into which a part of outsole (7) is inserted, for absorbing shocks applied to the outsole.

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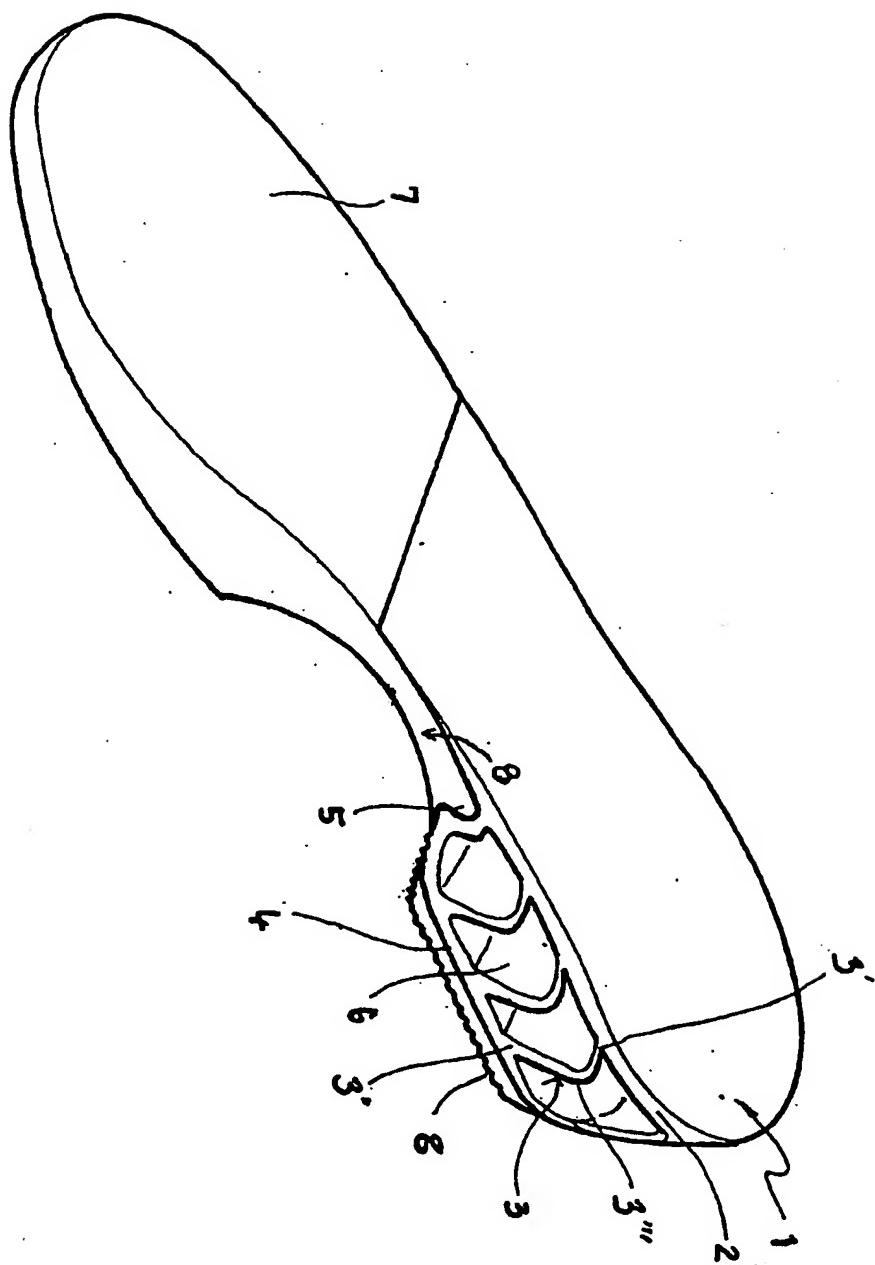
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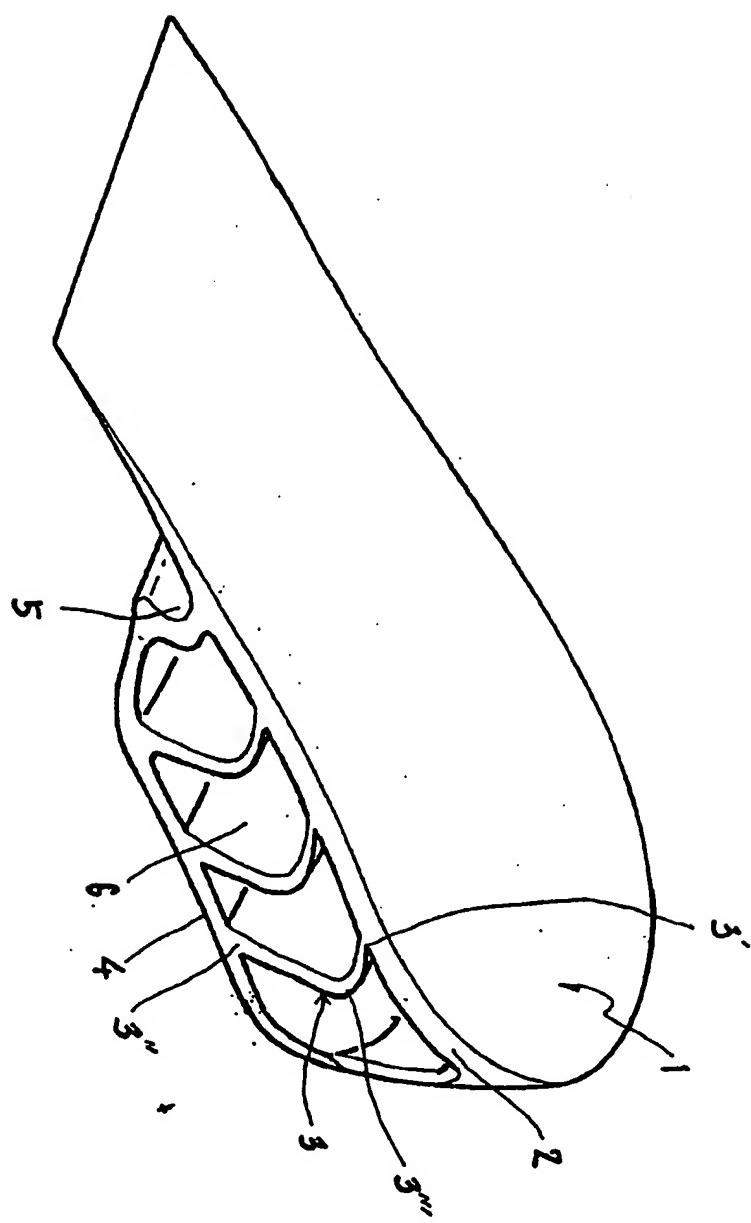
Fig. 1

1/3



2/3

Fig. 2



3/3

Fig. 3

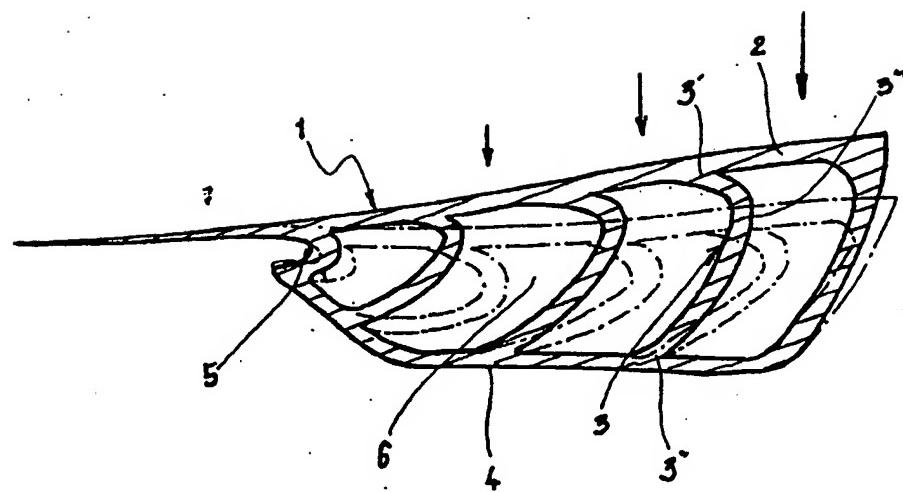


Fig. 4

